IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of transmitting data over a wireless channel comprising:

convolutionally encoding data to be transmitted over the wireless channel;

repetition encoding the convolutionally encoded data, wherein repetition encoding is performed in the frequency domain prior to processing by an Inverse Fast Fourier Transform (IFFT);

masking the repetition encoded data using a long symbol associated with IEEE 802.11 IEEE 802.11 standard a or IEEE 802.11 standard g;

processing the ~~repetition encoded~~ masked data using the IFFT, wherein frequency domain information is transformed into time domain information; and

transmitting the time domain information over the wireless channel.

2. (Cancelled)

3. (Cancelled)

4. (Previously presented) A method of transmitting data over a wireless channel as recited in claim 1 further including masking the data to reduce its peak to average ratio.

5. (Original) A method of transmitting data over a wireless channel as recited in claim 1 further including masking the data by applying a pseudorandom sequence.

6. (Previously presented) A method of transmitting data over a wireless channel as recited in claim 1 wherein the data is encoded using an IEEE 802.11 standard a or IEEE 802.11 standard g encoder.

7. (Original) A method of transmitting data over a wireless channel as recited in claim 1 wherein the data is interleaved after repetition encoding whereby a need to pad the data prior to interleaving is reduced.

8. (Currently amended) A method of receiving data over a wireless channel comprising:

receiving masked, convolutionally encoded, and repetition encoded data via the wireless channel;

unmasking the received masked, convolutionally encoded, and repetition encoded data using a long symbol associated with IEEE 802.11 IEEE 802.11 standard a or IEEE 802.11 standard g;

processing the ~~received convolutionally encoded and repetition encoded~~ unmasked data using a Fast Fourier Transform (FFT), wherein time domain information is transformed into frequency domain information;

combining the repetition encoded data to produce combined data, wherein combining is performed in the time domain after processing by the FFT; and

decoding the combined data.

9. (Original) A method of receiving data over a wireless channel as recited in claim 8 wherein the combined data is decoded using a Viterbi decoder.

10. (Cancelled)

11. (Cancelled)

12. (Original) A method of receiving data over a wireless channel as recited in claim 8 wherein the received data is further encoded by a pseudorandom mask, further including removing the pseudorandom mask.

13. (Previously presented) A method of receiving data over a wireless channel as recited in claim 8 wherein the convolutional encoding conforms to the IEEE 802.11 standard a or IEEE 802.11 standard g convolutional encoding.

14. (Original) A method of receiving data over a wireless channel as recited in claim 8 further including deinterleaving the data before combining the data.

15. (Original) A method of receiving data over a wireless channel as recited in claim 8 wherein the repetition encoded data is repeated in the frequency domain on subchannels, and wherein combining the repetition encoded data to produce combined data includes compensating for the effect of each subchannel.

16. (Original) A method of receiving data over a wireless channel as recited in claim 8 wherein the repetition encoded data is repeated in the frequency domain on subchannels and wherein combining the repetition encoded data to produce combined data includes weighting data received on different subchannels according to the quality of the subchannels.

17. (Original) A method of receiving data over a wireless channel as recited in claim 8 wherein the repetition encoded data is repeated in the frequency domain on subchannels and wherein an aggregate channel quality estimation is made for bits included in the combined data and wherein the aggregate channel quality estimation is used by the Viterbi to determine a maximum likely transmitted data sequence.

18. (Original) A method of receiving data over a wireless channel as recited in claim 8 further including estimating a phase offset using the received repetition encoded data.

19. (Original) A method of receiving data over a wireless channel as recited in claim 8 further including estimating a phase offset using the received repetition encoded data by making a hard decision and determining a hard decision corrected signal.

20. (Original) A method of receiving data over a wireless channel as recited in claim 8 further including:

estimating a phase offset using the received repetition encoded data by making a hard decision and determining a hard decision corrected signals; and

filtering the estimated phase offset using a median filter.

21. (Currently amended) A system for encoding data for transmission over a wireless channel comprising:

a convolutional encoder configured to convolutionally encode data to be transmitted over the wireless channel; and

a repetition encoder configured to repetition encode the convolutionally encoded data, wherein repetition encoding is performed in the frequency domain prior to processing by an Inverse Fast Fourier Transform (IFFT);

a masker configured to mask the repetition encoded data using a long symbol associated with IEEE 802.11 IEEE 802.11 standard a or IEEE 802.11 standard g;

the IFFT configured to ~~processing the repetition encoded~~ process the masked data, wherein frequency domain information is transformed into time domain information; and

a transmitter configured to transmit the time domain information over the wireless channel.

22. (Original) A system for encoding data as recited in claim 21 further including an interleaver.

23. (Original) A system for encoding data as recited in claim 21 further including a masking processor configured to superimpose a pseudorandom mask on the repetition coded data.

24. (Currently amended) A system for receiving data over a wireless channel comprising:

a receiver configured to receive masked, convolutionally encoded, and repetition encoded data via the wireless channel;

an unmasker configured to unmask the received masked, convolutionally encoded, and repetition encoded data using a long symbol associated with IEEE 802.11 IEEE 802.11 standard a or IEEE 802.11 standard g;

a Fast Fourier Transform (FFT) configured to process the ~~received convolutionally encoded and repetition encoded~~ unmasked data, wherein time domain information is transformed into frequency domain information;

a data combiner configured to combine the repetition encoded data to produce combined data, wherein combining is performed in the time domain after processing by the FFT; and

a decoder configured to decode the combined data.

25. (Original) A system for receiving data as recited in claim 24 further including a deinterleaver configured to deinterleave the combined data.

26. (Original) A system for receiving data as recited in claim 24 wherein the decoder is a Viterbi decoder.

27. (Original) A system for receiving data as recited in claim 24 further including a mask remover.

28. (Previously presented)) A system for receiving data as recited in claim 24 further including a phase offset processor configured to determine a phase offset by making a hard decision and determining a hard decision corrected signals.